

REMARKS

In the Office Action mailed January 24, 2003 the Examiner noted that claims 1-18 were pending, and rejected claims 1-18. Claims 1, 4 and 15-18 have been amended, and, thus, in view of the forgoing claims 1-18 remain pending for reconsideration which is requested.

On page 2 of the Office Action the Examiner rejected claim 1-18 under 35 U.S.C. § 102 as anticipated by Losq.

Losq, as noted on page 1, is specifically directed at predicting the target address of subroutine returns. That is, the architecture of the system described by Losq is prepared to handle subroutine returns. In contrast, the present invention is designed to handle situations where the instructions are not subroutine call and return instructions but instructions that are effectively equivalent. In particular, the invention is directed to a situation where the predicted branch is the "branch of the instruction equivalent to the subroutine return in an architecture for which a particular instruction for a subroutine is not prepared" (see claims 1, 4 and 15-18). Losq does not teach or suggest a solution to this problem solved by the present invention.

Further, the rejection is based on an assertion that Losq uses a decoder for address comparison. Decoders do not compare addresses they decode or translate instructions. See:

Definition for: decoder

Hardware or software that translates a coded signal back to its original form.

Decoders are used to enable a computer to recognize instructions and addresses.

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see <http://www.computeruser.com/resources/dictionary/>

Instruction decoders use gate logic to decode an instruction such as a jump instruction like a Branch Conditional (BCR) instruction. For further support, see the attached found at <http://www.fedu.uec.ac.jp/~yanto/java/simac/idecoder.html> The rejection is traversed as based on an inadequate foundation.

The present invention also solves a problem that the Losq system has that is not recognized much less solved by Losq. The Losq system uses a Branch History Table (BHT) to predict/initiate a transfer to an target address for a Branch Conditional Instruction (BCR). The initiation of this transfer is based upon the transfer to the address having already occurred. That is, the BHT initiates the prediction/transfer when there is a "hit". A hit occurs if the table records a previous time the particular address was encountered. The program counter must have

already passed through or encountered this address before a hit will occur. That is, the Losq system will not initiate a transfer the first time the program counter encounters an address, such as a BCR target address, because it has not been entered into the BHT. If there is no first branch that allows the program counter to pass over an address more than one time, the Losq circuit will be ineffective at solving the problem solved by the present invention. The Losq system does not identify an equivalent to call/return instructions but rather identifies that the target address of the return instruction has been encountered before. The present invention solves the problem by providing the comparing circuit and the identifying circuit (see claims 1, 4 and 15-18). That is, the first time that the instruction address is encountered, the comparing and identifying circuits of the present invention operate to identify an equivalent to a subroutine call and return. This allows the present invention allow a reaction to occur when such a reaction would not occur in Losq. For this additional reason, the rejection is also traversed.

The Examiner asserts on page 3 of the Action that the components of the present invention are inherent in Losq. As discussed above, Losq does not solve the problem or attain the result of the present invention. Thus, Losq does not inherently include the components of the present invention. The Examiner has asserted inherency in rejecting each and all of the claims. It appears, as established above, that the Examiner is basing the rejection on his own personal knowledge. The Examiner is requested to support this personal knowledge, used as a basis for the rejection, with an affidavit as to the specifics of the facts of that knowledge as set forth in 37 C.F.R. section 1.104(d)(2)).

The dependent claims also set forth features not found in the prior art. Claim 11 emphasizes setting a flag when the return address is different. The Examiner alleges that this "must" exist in Losq. This is not the case, as noted on page 3 Losq initiates a reset procedure when a return from a subroutine is to a different address. The Examiner's allegation of inherency with respect to the dependent claims is also traversed.

It is submitted that the present claimed invention patentably distinguishes over Losq and withdrawal of the rejection is requested.

If any further fees, other than and except for the issue fee, are necessary with respect to this paper, the U.S.P.T.O. is requested to obtain the same from deposit account number 19-3935.

Respectfully submitted,

STAAS & HALSEY LLP

Date:

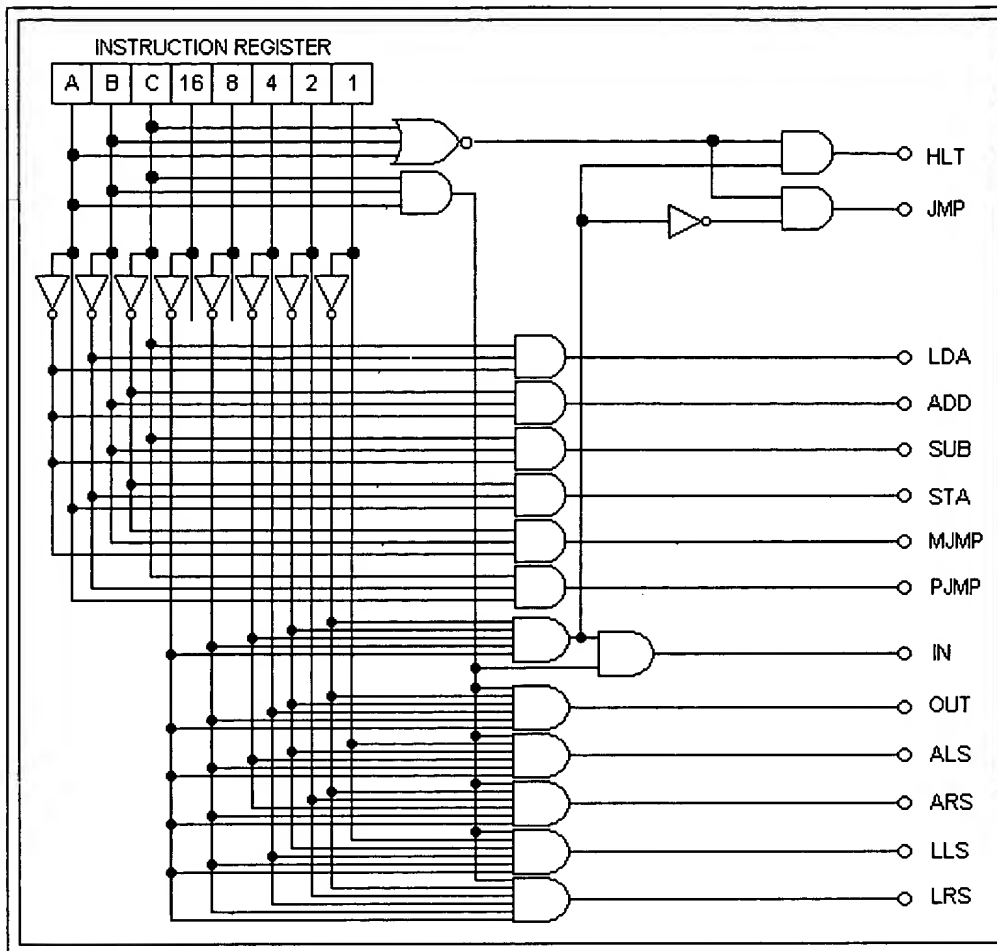
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